

Technology Needs Assessment for Video Cell Phones

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Ketan Dadia

Mike DiGiovanni

Professor Wang
Software Engineering Department
Monmouth University
West Long Branch, NJ 07764-1898



Executive Summary

Early analysis indicates that people would use video cell phones if the product integrated well into their existing cell phone use. This includes both business and personal use. This means that video cell phones could have a profitable future. In the present day practically everyone has a means of communications like e-mail, cell phones, instant messaging, and many more. Video cell phones would be the gateway to improve communication in business and personal life, with which people can see the other end instead of just talking to them. With new advances comes new opportunity.

Introduction

The purpose of this report is to present the analysis of the needs assessment for video cell phones. This report will present analysis to answer several questions regarding the future of video phones as cell phones in comparison to the prior failure of previous video phone adaptations.

The rest of the report will go over the history of video phones in their other form factors, give a more in depth description of the purpose of this report, describe how the analysis was performed and ultimately it will present a recommendation based on the findings in this report.

Background

Ketan Dadia and Mike DiGiovanni produced this report along with the analysis included in the report. This has been done as part of an exercise for a technology assessment course under the supervision of Professor Wang.

Video phones are devices capable of sending audio and video simultaneously from one source to another over normal phone lines. Theoretically, this should bring forth a more emotional means of communication; however, past instances of video phones did not have that occur.

1964 was the start of the complete failure of video phones. "AT&T unveiled Picturephone, a system to transmit both audio and video over a telephone lines."(Knoll) "The hardware and service were both expensive and the systems never faced widespread installation." (Lipartito, 3)

Another reason for the failure of picture phones was privacy. People do not always want to be seen by the person they are talking to. With fixed location picture phones, you were stuck looking at a wall if someone decided they didn't want to be on camera.

Picture quality was yet another issue that contributed to the demise of past implementations. Many early implementations were black and white with low frame rates. This made for unemotional video.

Cell phones can combat many of these issues and that is the reason for this needs assessment. Cell phones can be used practically anytime, anywhere; Transmission speeds can be much higher than landlines. We've seen video enabled cell phones that look stunningly better than past video phones. This shows us that the bad quality of previous video phones can easily be overcome. This can easily be seen in Europe, where video is commonly sent to and from cell phones. Users there have grown accustomed to the fees associated with the ease of sending and receiving video.

The next generation of video cell phones has the capability to be more emotional. You can bring friends and family with you to exotic destinations and talk to them as though they were there. This was something that was impossible with past video phones due to their size and need for a landline.

Purpose

We've already discussed how previous incarnations of video phones have failed. The analysis done for this document is to determine what would make video cell phones succeed in spite of the past history of video phones. We also aim to confirm the existence of a need for video cell phones.

Limitations

The method used to gather the analysis presented in this document was questionnaires. Questionnaires have some inherent limitations. Questionnaires take time to distribute, process, and analyze. Due to time constraints, the questionnaire was not available for responses for a long time. Questionnaires are also not as flexible as other instruments. This means that unclear questions will most likely go unanswered.

The data gathered also has some limitations that are not related to the instrument. The first limitation is the size of the sample. A large number of people did not respond to the survey. Another limitation is data from respondents who do not own cell phones. We did not receive responses from them, this is partially due to the low sample size, however it is also due to how the survey was distributed. It's plausible that internet users are more likely to adopt new technologies and thus more likely to have a cell phone. We were also unable to make recommendations based on ages due to the small sample size.

It was also discovered that never or none as a selection was left off several questions. Some users responded by filling in other with "never." Those selections were then manually separated from selections of "Other" with actual content.

Questions

The main question we hope to answer is whether or not people will use video cell phones. We would also like to get some understanding of the applications where video cell phones would be most appreciated. The final question we hope to gain some insight into is what pricing plans and quality will be most effective in garnering widespread use of video cell phones. The actual questions asked of the respondents will be described in the results and recommendations section below.

Methods and Instrumentation

A web-based survey was determined to be the best way to gather data given the constraints of the project. A survey was created using Zoomerang at www.zoomerang.com. Results were graphed and charted using Microsoft Excel.

Zoomerang is an online survey creator and manager. (zoomerang) The basic version of Zoomerang was used. This version provides survey creation and basic management of results. Results were then plugged into Excel and they were charted in bar charts.

Results and Recommendations

12 questions were chosen as the basis for this needs assessment. The following section shows the charted results along with any recommendations based on those results.

The respondents were asked, which age bracket they fit into. Although all respondents answered this question, due to the small sample sizes, we were unable to make any recommendations based on the age of the respondents. Figure 1 shows the results of this question.

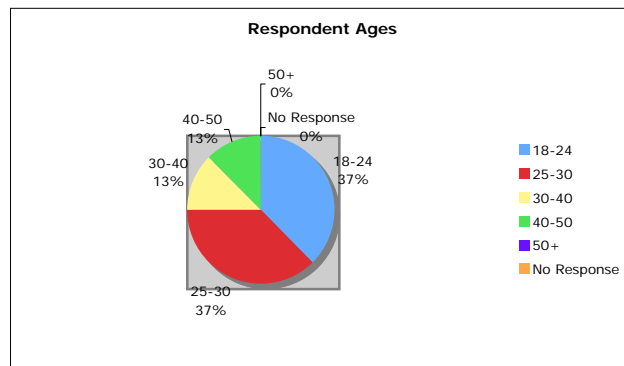


Fig. 1

All respondents answered yes to the question of whether or not they own a cell phone. Most of the respondents used their cell phones primarily for personal use. Unfortunately this meant that recommendations based on business use could not be made. The results of this question are presented in figure 2.

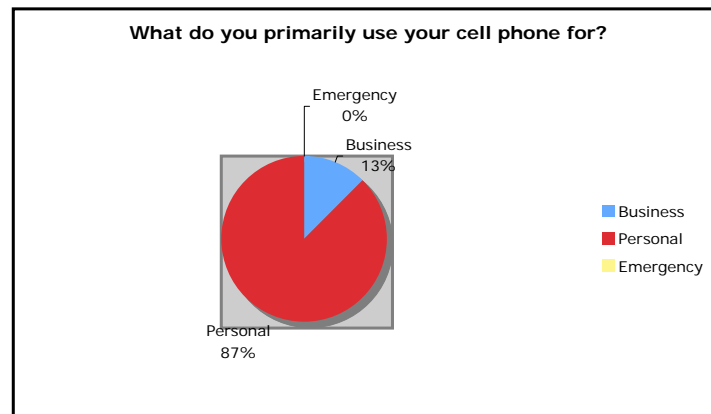


Fig. 2

Figure 3 shows that we did get a broader range of responses for situations where people have used video conferencing tools. Most people had at least one experience with video conferencing. Further research will be needed to find out what their past experiences were.

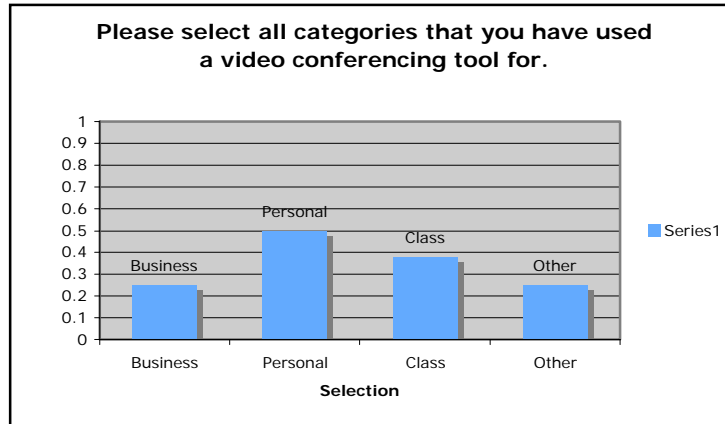


Fig. 3

Figure 4 shows that seventy-five percent of respondents have used messaging services that cost extra on their cell phones. This shows that if a useful application for video cell phones is found, then people will be likely to pay extra for the service.

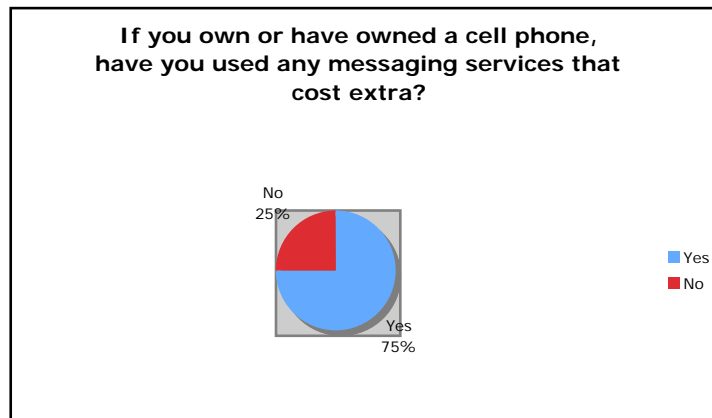


Fig. 4

The next question is about the situations people have seen video enabled cell phones used. Figures 5, 6, and 7 show the responses to this question. The fact that eighty-eight percent of respondents have seen video enabled cell phones in movies shows that any video cell phone will have to compete with the expectations that people have after seeing movies.

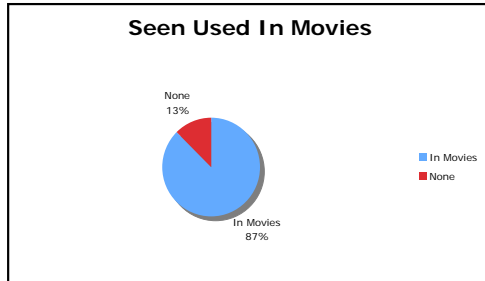


Fig. 5

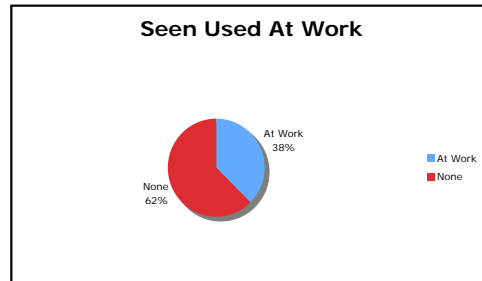


Fig. 6

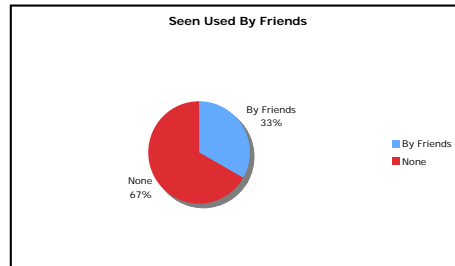


Fig. 7

Figure 8 shows the responses to whether or not a respondent would pay more for a video cell phone than a regular cell phone. The answers here show us that like the current situation today, there will need to be video cell phones that match the price of current cell phones or we will lose half of the market. However it also shows that there is a market for premium video cell phones.

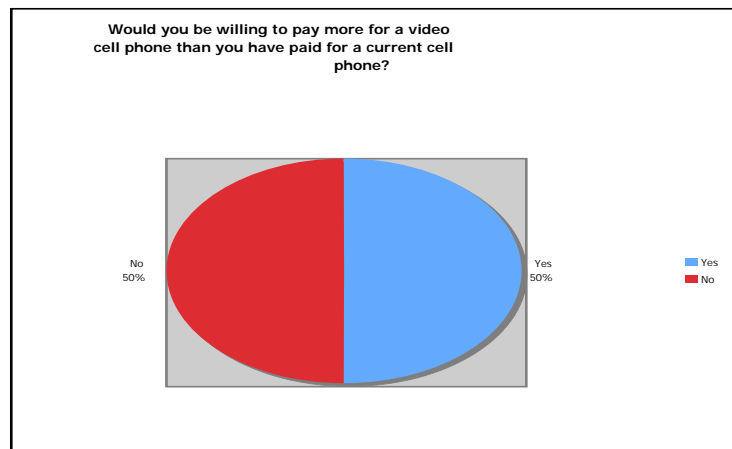


Fig. 8

Figure 9 shows that the expected expense of additional cell phone services varies greatly between users. The average of the responses, including those who would not pay, is \$10. The average of responses , excluding those who would not pay, is \$13.

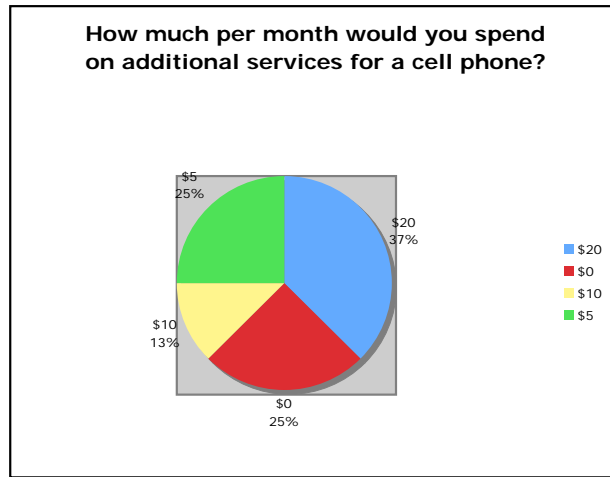


Fig. 9

We also asked the respondents how often they estimate that they would use video features of a video cell phone under 3 different types of cost plans. Figures 10, 11, and 12 illustrate these responses. A correlation between use and cost became apparent. The following 3 figures show the responses based on a yes/no answer. As the monthly costs became more uncertain, more respondents responded as never going to use video features.

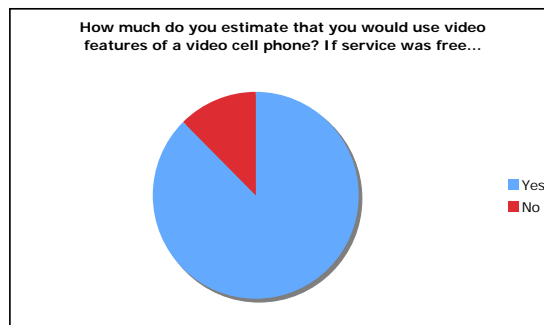


Fig. 10

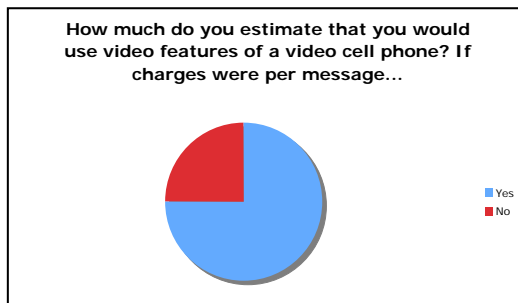


Fig. 11

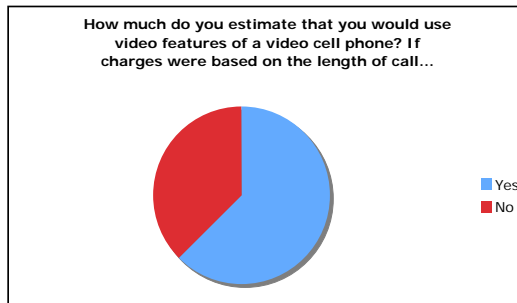


Fig. 12

Figure 13 shows how many people wish they had a video cell phone at some point. This is a very important statistic because it shows that nearly two thirds of the respondents would have used a video cell phone at some point. This clearly shows that there is a need for video cell phones on some level.

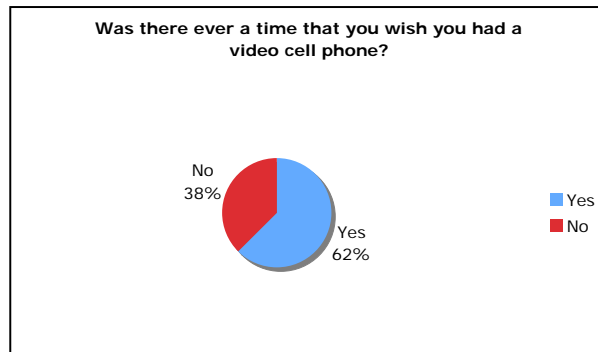


Fig. 13

Figure 14 shows that high video quality is a necessary feature for video cell phone. Higher video quality will also do well to separate video cell phones from the failed video phones of the past several decades.

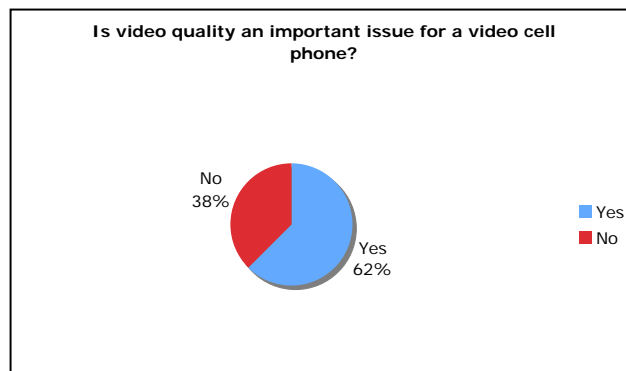


Fig. 14

Figures 15 and 16 show that respondents seem to be evenly divided as to whether or not they would pay a premium for better video quality. This could mean, that to be successful, all video cell phones will need to be capable of high quality video.

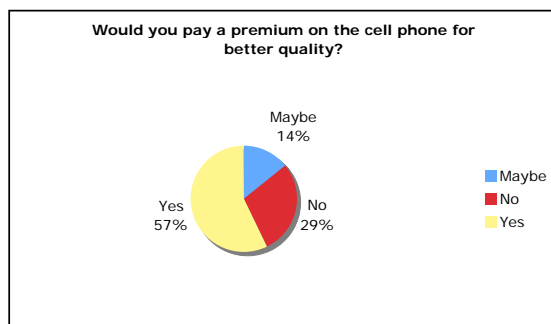


Fig. 15

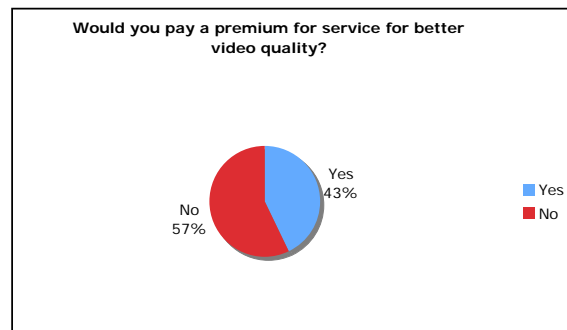


Fig. 16

Based on these results we can see that there is a need for video cell phones. It also seems that some effort will have to be made to meet the expectations of the users. Further analysis and assessments should take place. Just because video phones have failed in the past does not mean that video cell phones will face the same fate.

Conclusion

It looks like an improvement in the desirability of video phones comes with cell phones. Video cell phones may not fail where other video phones have failed. Cell phone users have gotten used to additional charges for extra services such as text or picture messaging. That is a key advantage that could help video cell phones become a success. The advances that have come to cell phones in the past few years lend new opportunity to video cell phones. Although the survey did not have a huge number of respondents, we see a want and potential need for video cell phones. We did gain some insight into the required level of quality and pricing that would be necessary for adoption of video cell phones.

References

1. A. Michael Noll, "Videophone: A Flop that Won't Die," *New York Times*, 12 January 1992,
2. Lipartito, Kenneth, "Picturephone and the Information Age," http://muse.jhu.edu/demo/technology_and_culture/v044/44.1lipartito.html, 2003
3. Zoomerang, <http://www.zoomerang.com>